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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,165	02/12/2007	Marcus Davidsson	P18112-US2	3743
27045	7590	06/29/2009	EXAMINER	
ERICSSON INC. 6300 LEGACY DRIVE M/S EVR 1-C-11 PLANO, TX 75024			WOO, ANDREW M	
			ART UNIT	PAPER NUMBER
			2441	
			MAIL DATE	DELIVERY MODE
			06/29/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/595,165	Applicant(s) DAVIDSSON, MARCUS	
	Examiner ANDREW WOO	Art Unit 2441	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>03/14/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The application has been examined. Claims 1-33 are pending.

Claim Objections

2. Claim 14 is objected to because of the following informalities:

The claim 14, [line 4], reads as "apparatus (10)". Appropriate correction is required.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 03/14/2006. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Haumont et al. (WO 01/91382, hereinafter Haumont).

6. Regarding claim 1, **Haumont** discloses a method in a communication apparatus for maintaining an established connection between said communication apparatus and a network node of a serving communication network (*Haumont discloses that the selection of the support node may be made depending on the type of the connection established and/or requested, or on the type of the user equipment*) (**Haumont, page 10, lines 25-29**), comprising the steps of:

receiving an acceptance message from said network node in response to a request message relating to a first procedure transmitted to said network node (*Haumont discloses that the first network element may send a message of request containing the identifier (e.g. RAI) to another network element such as a DNS (Domain Name System) server in order to receive, as a response, a list of possible second network elements serving the routing area indicated by the RAI*) (**Haumont, page 5, lines 6-11**);

determining whether any request relating to a second procedure is pending (*Haumont discloses that the follow on request shall be set by the MS if there is pending uplink traffic (signaling or user data)*) (**Haumont, page 26, lines 17-18**); and,

transmitting to said network node, if any request is pending when said acceptance message is received, a maintaining request for maintaining said connection (*Haumont discloses that the first network element uses the area identifier and/or the*

Art Unit: 2441

CN identifier to request the list-transmitting network element such as a DNS server to send a list of second network elements assigned to the transmitted identifier) (**Haumont, page 6, lines 25-36; page 7, lines 1-5).**

7. Regarding claim 2, **Haumont** discloses the method according to claim 1, wherein the step of transmitting said maintaining request is executed if the pending request is received after the request relating to the first procedure is transmitted and before said acceptance message is received (**Haumont discloses that the address of the first network element sending the list request or indicating first a default second element for this area; based on information on the actual or previous load of each listed second network element; and the order of listing of the second network elements may be kept unchanged, but additional information is attached to the list indicating the actual or previous load condition of the listed second network elements)** (**Haumont, page 5, lines 16-36; page 6, lines 1-5).**

8. Regarding claim 3, **Haumont** discloses the method according to claim 1, wherein the maintaining request is incorporated into a response message, which is transmitted in response to receiving said acceptance message (**Haumont discloses that the first network element may send a message of request containing the identifier (e.g. RAI) to another network element such as a DNS (Domain Name System) server in order to receive, as a response, a list of possible second network elements serving the routing area indicated by the RAI; and as a part of the response of the DNS, there is a**

Art Unit: 2441

transmitted a list of IP addresses and Canonical names (CNAME), as in fig. 5)
(Haumont, page 5, lines 6-11; page 19, lines 1-5).

9. Regarding claim 4, **Haumont** discloses the method according to claim 3, wherein the response message is an acknowledgement message (***Haumont** discloses that the RA update is an Inter-SGSN routing area update, the new SGSN sends an SGSN Context Acknowledge message to the old SGSN*) **(Haumont, page 28, lines 4-9).**

10. Regarding claim 5, **Haumont** discloses the method according to claim 1, further comprising the step of maintaining said established connection until the connection is no longer in use (***Haumont** discloses that the routing area has to be completely shut-down and is at least temporarily no longer usable for providing connections*) **(Haumont, page 2, lines 20-26).**

11. Regarding claim 6, **Haumont** discloses the method according to claim 1, wherein the established connection is a packet switched or a circuit switched signaling connection (***Haumont** discloses that the network can be of circuit-switched or packet-switched*) **(Haumont, page 1, lines 3-10).**

12. Regarding claim 7, **Haumont** discloses the method according to claim 1, wherein the method is comprised in a mobility management protocol of a wireless communication interface of the electronic communication apparatus, and wherein a

Art Unit: 2441

mobility management unit handles the signaling to the network node (**Haumont** discloses that to ensure backward compatibility, the new information element is optional information element transmitted in both MM and RRC signaling (if an explicit information element is used for both protocols)) (**Haumont, page 16, lines 20-32**).

13. Regarding claim 8, **Haumont** discloses the method according to claim 1, wherein the first and second procedures are mobility management procedures (**Haumont** discloses that the selection of one of the available second network elements covering a certain routing area may be performed in dependence on information coming from other network element such as user equipment, for instance a mobile station) (**Haumont, page 7, lines 26-36; page 8, lines 1-5**).

14. Regarding claim 9, **Haumont** discloses the method according to claim 1, wherein the maintaining request is a Follow-On Request (FOR) (**Haumont** discloses that the RRC connection is established, if not done already; the MS sends a routing area update request message (i.e. follow-on-request, etc.); and the follow on request shall be set by the MS if there is pending uplink traffic (signaling or user data)) (**Haumont, page 26, lines 12-20**).

15. Regarding claim 10, **Haumont** discloses a method in a communication network node for maintaining a connection between said network node and a communication apparatus being served (**Haumont** discloses that the selection of the support node may

Art Unit: 2441

be made depending on the type of the connection established and/or requested, or on the type of the user equipment) (**Haumont, page 10, lines 25-29**), comprising the steps of:

transmitting to said communication apparatus an acceptance message in response to receiving from said communication apparatus a request relating to a specific procedures (***Haumont** discloses that the first network element may send a message of request containing the identifier (e.g. RAI) to another network element such as a DNS (Domain Name System) server in order to receive, as a response, a list of possible second network elements serving the routing area indicated by the RAI; and the first network element uses the area identifier and/or the CN identifier to request the list-transmitting network element such as a DNS server to send a list of second network elements assigned to the transmitted identifier)* (**Haumont, page 5, lines 6-11; page 6, lines 25-36; page 7, lines 1-5**);

maintaining the connection a predetermined period of time after the acceptance message is transmitted (***Haumont** discloses that when a SGSN is scheduled for operation and maintenance procedures, it will preferably be excluded from the list sent back in response a certain or determined time interval such as several hours before the scheduled maintenance time point so as to avoid connections to be newly established to this SGSN)* (**Haumont, page 23, lines 19-34**); and,

further maintaining the connection if a maintaining request is received from said communication apparatus within said predetermined period of time (***Haumont** discloses that when a SGSN is scheduled for operation and maintenance procedures, it will*

Art Unit: 2441

preferably by excluded from the list sent back in response a certain or determined time interval such as several hours before the scheduled maintenance time point so as to avoid connections to be newly established to this SGSN) (Haumont, page 23, lines 19-34).

16. Regarding claim 11, **Haumont** discloses the method according to claim 10, further comprising the steps of:

receiving the maintaining request, and in response thereto maintaining the established connection until the connection is no longer in use (*Haumont discloses that the routing area has to be completely shut-down and is at least temporarily no longer usable for providing connections*) (**Haumont, page 2, lines 20-26**).

17. Regarding claim 12, **Haumont** discloses the method according to claim 10, wherein the acceptance message comprises information requiring an acknowledgement message, the method further comprises the step of receiving the acknowledgement message, and determining whether said acknowledgement message comprises the maintaining request (*Haumont discloses that the first network element may send a message of request containing the identifier (e.g. RAI) to another network element such as a DNS (Domain Name System) server in order to receive, as a response, a list of possible second network elements serving the routing area indicated by the RAI; and as a part of the response of the DNS, there is a transmitted a list of IP addresses and Canonical names (CNAME), as in fig. 5; and the RA update is an Inter-SGSN routing*

Art Unit: 2441

area update, the new SGSN sends an SGSN Context Acknowledge message to the old SGSN) (**Haumont, page 5, lines 6-11; page 19, lines; page 28, lines 4-9**).

18. Regarding claim 13, **Haumont** discloses the method according to claim 10, wherein the established connection is a packet switched or a circuit switched signaling connection (***Haumont** discloses that the network can be of circuit-switched or packet-switched*) (**Haumont, page 1, lines 3-10**).

19. Regarding claim 14, **Haumont** discloses the method according to claim 10, wherein the method is comprised in a mobility management protocol of a wireless interface of the communication network, and wherein a mobility management unit handles the signaling to the communication apparatus (10) (***Haumont** discloses that to ensure backward compatibility, the new information element is optional information element transmitted in both MM and RRC signaling (if an explicit information element is used for both protocols)*) (**Haumont, page 16, lines 20-32**).

20. Regarding claim 15, **Haumont** discloses the method according to claim 10, wherein the specific procedure is a mobility management procedure (***Haumont** discloses that the selection of one of the available second network elements covering a certain routing area may be performed in dependence on information coming from other network element such as user equipment, for instance a mobile station*) (**Haumont, page 7, lines 26-36; page 8, lines 1-5**).

21. Regarding claim 16, **Haumont** discloses the method according to claim 10, wherein the maintaining request is a Follow-On Request (FOR) (***Haumont** discloses that the RRC connection is established, if not done already; the MS sends a routing area update request message (i.e. follow-on-request, etc.); and the follow on request shall be set by the MS if there is pending uplink traffic (signaling or user data)*) (**Haumont, page 26, lines 12-20**).

22. Regarding claim 17, **Haumont** discloses a control device for a communication apparatus for maintaining an established connection to a communication network, the control device being adapted to issue a request to maintain said connection (***Haumont** discloses that the network element can be of a user equipment*) (**Haumont, page 4, lines 18-28**), comprising:

receiver means arranged to receive an acceptance message in response to transmitting a request relating to a first procedure (***Haumont** discloses that the first network element may send a message of request containing the identifier (e.g. RAI) to another network element such as a DNS (Domain Name System) server in order to receive, as a response, a list of possible second network elements serving the routing area indicated by the RAI*) (**Haumont, page 5, lines 6-11**); and,

issuing means arranged to issue, if any request relating to a second procedure is pending when said acceptance message is received, a maintaining request for maintaining said connection (***Haumont** discloses that the first network element uses the*

Art Unit: 2441

area identifier and/or the CN identifier to request the list-transmitting network element such as a DNS server to send a list of second network elements assigned to the transmitted identifier; and the follow on request shall be set by the MS if there is pending uplink traffic (signaling or user data)) (Haumont, page 6, lines 25-36; page 7, lines 1-5; page 26, lines 17-18).

23. Regarding claim 18, **Haumont** discloses the control device according to claim 17, wherein said issuing means is arranged to issue said maintaining request if the pending request is received after the request relating to the first procedure is transmitted and before said acceptance message is received (*Haumont discloses that the address of the first network element sending the list request or indicating first a default second element for this area; based on information on the actual or previous load of each listed second network element; and the order of listing of the second network elements may be kept unchanged, but additional information is attached to the list indicating the actual or previous load condition of the listed second network elements*) (**Haumont, page 5, lines 16-36; page 6, lines 1-5**).

24. Regarding claim 19, **Haumont** discloses the control device according to claim 17, wherein said issuing means is arranged to incorporate the maintaining request into a response message, and arranged to issue said response message in response to receiving said acceptance message (*Haumont discloses that the first network element may send a message of request containing the identifier (e.g. RAI) to another network*

Art Unit: 2441

element such as a DNS (Domain Name System) server in order to receive, as a response, a list of possible second network elements serving the routing area indicated by the RAI; and as a part of the response of the DNS, there is a transmitted a list of IP addresses and Canonical names (CNAME), as in fig. 5) (Haumont, page 5, lines 6-11; page 19, lines 1-5).

25. Regarding claim 20, **Haumont** discloses the control device according to claim 19, wherein the response message is an acknowledgement message (***Haumont** discloses that the RA update is an Inter-SGSN routing area update, the new SGSN sends an SGSN Context Acknowledge message to the old SGSN*) (**Haumont, page 28, lines 4-9**).

26. Regarding claim 21, **Haumont** discloses the control device according to claim 17, comprising a memory for storing a mobility management protocol of a wireless communication interface, according to which the requests are transmitted, and the acceptance message is received (***Haumont** discloses that to ensure backward compatibility, the new information element is optional information element transmitted in both MM and RRC signaling (if an explicit information element is used for both protocols); and having retrieved the available SGSNs from the memory*) (**Haumont, page 16, lines 20-32; page 23, lines 19-34**).

Art Unit: 2441

27. Regarding claim 22, **Haumont** discloses a mobile communication apparatus comprising a receiver and a transmitter, for communicating with a network, characterized by a control device according to claim 16 (*Haumont discloses that of a transceiver base station*) (**Haumont, page 1, lines 18-24**).

28. Regarding claim 23, **Haumont** discloses the mobile communication apparatus according to claim 22, wherein the apparatus is selected from the group consisting of a mobile radio terminal, a pager, a communicator, a smart phone, or an electronic organizer (*Haumont discloses that of a radio access network, radio network controller, radio connection to a user equipment, etc.*) (**Haumont, page 14, lines 1-12**).

29. Regarding claim 24, **Haumont** discloses the mobile communication apparatus according to claim 22, wherein the apparatus is a mobile telephone (*Haumont discloses that of mobile stations or a stationary terminals*) (**Haumont, page 13, lines 26-35**).

30. Regarding claim 25, **Haumont** discloses a control device for a network node for maintaining a connection to a communication apparatus, the control device being adapted to issue an acceptance message in response to a request relating to a specific procedure (*Haumont discloses that the network element can be of a user equipment; and the first network element uses the area identifier and/or the CN identifier to request the list-transmitting network element such as a DNS server to send a list of second network elements assigned to the transmitted identifier; and the follow on request shall*

Art Unit: 2441

be set by the MS if there is pending uplink traffic (signaling or user data)) (**Haumont, page 4, lines 18-28; page 6, lines 25-36; page 7, lines 1-5; page 26, lines 17-18**), the control device comprising

an issuing means arranged to issue the acceptance message in response to receiving the request from the communication apparatus (*Haumont discloses that the first network element uses the area identifier and/or the CN identifier to request the list-transmitting network element such as a DNS server to send a list of second network elements assigned to the transmitted identifier; and the follow on request shall be set by the MS if there is pending uplink traffic (signaling or user data))* (**Haumont, page 6, lines 25-36; page 7, lines 1-5; page 26, lines 17-18**); and

a waiting means arranged to wait a predetermined period of time after the acceptance message is transmitted to the communication apparatus (*Haumont discloses that the address of the first network element sending the list request or indicating first a default second element for this area; based on information on the actual or previous load of each listed second network element; and the order of listing of the second network elements may be kept unchanged, but additional information is attached to the list indicating the actual or previous load condition of the listed second network elements; and the routing area update takes place when an attached MS detects that it has entered a new RA or when the periodic RA update timer has expires*) (**Haumont, page 5, lines 16-36; page 6, lines 1-5; page 25, lines 17-18**);

wherein the waiting means is arranged to further wait if a maintaining request is received from the communication apparatus within said predetermined period of time

Art Unit: 2441

(Haumont discloses that it may determine the old second network element; and the identifier may have been sent from the old support node to the user equipment together with PTMSI during (e.g. at the begin or end) of the time period during which it was charge for handling the connection to the user equipment) (Haumont, page 10, lines 1-16).

31. Regarding claim 26, **Haumont** discloses the control device according to claim 25, wherein said waiting is arranged to wait until the second period of time ends, which is when the connection is no longer in use *(Haumont discloses that when a SGSN is scheduled for operation and maintenance procedures, it will preferably by excluded from the list sent back in response a certain or determined time interval such as several hours before the scheduled maintenance time point so as to avoid connections to be newly established to this SGSN) (Haumont, page 23, lines 19-34).*

32. Regarding claim 27, **Haumont** discloses the control device according to claim 25, wherein said issuing means is arranged to incorporate into the acceptance message information that requires an acknowledgement message *(Haumont discloses that the first network element may send a message of request containing the identifier (e.g. RAI) to another network element such as a DNS (Domain Name System) server in order to receive, as a response, a list of possible second network elements serving the routing area indicated by the RAI; and as a part of the response of the DNS, there is a*

Art Unit: 2441

transmitted a list of IP addresses and Canonical names (CNAME), as in fig. 5)
(Haumont, page 5, lines 6-11; page 19, lines 1-5).

33. Regarding claim 28, **Haumont** discloses the control device according to claim 25, wherein said waiting means is arranged to determine whether a received response message comprises a request to maintain the connection, and if so maintain said connection (***Haumont** discloses that the selection of the support node may be made depending on the type of the connection established and/or requested, or on the type of the user equipment; and when a SGSN is scheduled for operation and maintenance procedures, it will preferably by excluded from the list sent back in response a certain or determined time interval such as several hours before the scheduled maintenance time point so as to avoid connections to be newly established to this SGSN*) **(Haumont, page 10, lines 25-29; page 23, lines 19-34).**

34. Regarding claim 29, **Haumont** discloses the control device according to claim 25, comprising a memory for storing a mobility management protocol of a wireless communication interface, according to which the requests and messages are processed (***Haumont** discloses that to ensure backward compatibility, the new information element is optional information element transmitted in both MM and RRC signaling (if an explicit information element is used for both protocols); and having retrieved the available SGSNs from the memory*) **(Haumont, page 16, lines 20-32; page 23, lines 19-34).**

Art Unit: 2441

35. Regarding claim 30, **Haumont** discloses a network node comprising a transmitter unit and a receiver unit for communicating with a mobile communication apparatus, characterized by a control device according to claim 23 (*Haumont discloses that of a transceiver base station*) (**Haumont, page 1, lines 18-24**).

36. Regarding claim 31, **Haumont** discloses the network node according to claim 30, wherein said node is a serving GPRS support node (SGSN), a gateway GPRS support node (GGSN), a mobile switching center/visitor location register (MSCNLR), a gateway mobile switching center (GMSC) or a home location register (HLR) (*Haumont discloses of SGSN, GGSN, MSCVLR, GMSC, and HLR*) (**Haumont, page 1, 2, 15, 25, 28**).

37. Regarding claim 32, **Haumont** discloses a computer program product embodied on a computer readable medium, comprising computer readable instructions for carrying out the method according to claim 1 when run by an electronic device having digital computer capabilities (*Haumont discloses that the first network element may send a message of request containing the identifier (e.g. RAI) to another network element such as a DNS (Domain Name System) server in order to receive, as a response, a list of possible second network elements serving the routing area indicated by the RAI; the first network element uses the area identifier and/or the CN identifier to request the list-transmitting network element such as a DNS server to send a list of second network elements assigned to the transmitted identifier; the selection of the support node may be made depending on the type of the connection established and/or*

Art Unit: 2441

requested, or on the type of the user equipment; and the follow on request shall be set by the MS if there is pending uplink traffic (signaling or user data)) (**Haumont, page 5, lines 6-11; page 6, lines 25-36; page 7, lines 1-5; page 10, lines 25-29; page 26, lines 17-18).**

38. Regarding claim 33, **Haumont** discloses a computer program product embodied on a computer readable medium, comprising computer readable instructions for carrying out the method according to claim 10 when run by an electronic device having digital computer capabilities (***Haumont** discloses that the first network element may send a message of request containing the identifier (e.g. RAI) to another network element such as a DNS (Domain Name System) server in order to receive, as a response, a list of possible second network elements serving the routing area indicated by the RAI; and the first network element uses the area identifier and/or the CN identifier to request the list-transmitting network element such as a DNS server to send a list of second network elements assigned to the transmitted identifier; the selection of the support node may be made depending on the type of the connection established and/or requested, or on the type of the user equipment; and when a SGSN is scheduled for operation and maintenance procedures, it will preferably be excluded from the list sent back in response a certain or determined time interval such as several hours before the scheduled maintenance time point so as to avoid connections to be newly established to this SGSN)* (**Haumont, page 5, lines 6-11; page 6, lines 25-36; page 7, lines 1-5; page 10, lines 25-29; page 23, lines 19-34).**

Conclusion

39. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW WOO whose telephone number is (571)270-7521. The examiner can normally be reached on Monday - Friday, 8am-5:30pm, alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571)272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Wing F. Chan/
Supervisory Patent Examiner,
Art Unit 2441

/A. W./
Examiner, Art Unit 2441